

INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

Applications Integrated Information System
Type of Industry Underwear Manufacturer
Name of User Her Majesty Underwear Co., Inc.
Mauldin, S. C.

Equipment Used IBM 1401 Data Processing System (Card system), including:
1401 Processing Unit (4K)
1402 Card-Read Punch
1403 Printer

Synopsis

A management information system at Her Majesty Underwear is centered around the use of an IBM 1401 data processing system. The system controls production, production scheduling, order allocation and billing, inventory, and performs sales analysis and accounting functions.

The system produces a number of reports which allow management to base decisions upon up-to-date information. A daily stock status report shows production for the week, orders for the week, orders to date, shipment units for the month and shipment dollars for the month -- all by style, color and size.

Other reports produced include a monthly costed production report, a monthly cost of sales report, a quarterly report for each customer showing his purchases by style and size and a monthly order comparison report.

The IBM 1401 data processing system at Her Majesty Underwear is used, according to its president, Arthur F. Magill, for "everything" including production control, production scheduling, order allocation and billing, inventory control, sales analysis, merchandising information and financial controls that tie in the firm's accounting system. As a result, savings in materials, labor and time have been achieved at many levels.

With use of data processing equipment, Her Majesty Underwear is supplied with information daily, is able to know immediately if a particular style will not sell, and can convert to styles that will sell.

Her Majesty Underwear was founded in 1903 in Philadelphia as a manufacturer of women's pure silk yarn-dyed petticoats that retailed for up to \$25. In the middle of the depression the company made a profit of \$20,000.

Today, the closely-held corporation is the world's largest producer of children's lingerie and sleepwear. Annual volume is about \$12 million and has grown at about 10 to 15 percent annually for the last five years. Management expects to double the business in the next five years based solely on continuing internal growth.

The main office is in New York with branches in Chicago, Los Angeles, Dallas, Atlanta and Charlotte, N.C. General offices and plant are located in Mauldin, S.C. in a 250,000 square foot structure.

The IBM 1401 data processing system at Her Majesty Underwear was preceded by punched card equipment. Although the 1401 system is now being applied to virtually every area of operation within the firm, data processing costs have dropped 21 percent during the same period. This can be attributed to a continuing effort to integrate reporting functions and applications generally so that one source document serves different purposes.

THE SYSTEM

Typical of the information derived from the system is a daily stock status report by style and product line. This report is regarded as the firm's most valuable single report. It shows production for the week, orders for the week, orders to date, shipment units for the month, shipment dollars for the month, all by style, color and size. The inventory position for each is also shown, including cuts that have been issued as committed goods, work in process and finished goods not allocated to customer orders. The report also shows orders in the factory that have not been shipped and the amount of goods available for sale that have not been allocated -- a total of the cuts issued, work in process and the in-stock data. All information is up-to-date as of the previous evening.

Available early each morning, this report is distributed to all line supervisors, the production scheduling department and top management. This document is used to make most of the day-to-day decisions -- on boosting production of fast-moving items, for example -- and is the subject of close scrutiny at regular Saturday morning executive meetings on merchandising and production.

A major source of data for the stock status report, and others, is the firm's IBM-card piece-rate ticket system. These tickets are similar to conventional paste-on tickets, except that, because information is punched into them, they can be machine-processed in a variety of ways. Some 18,000 ticket cards are produced daily, but despite this volume, Her Majesty can get the tickets onto the floor at the same time as cuts because the cuts require four hours to a day to complete.

The piece-rate cards first serve to produce a daily piece-rate report, which enables each line supervisor to see how her operators are performing, and review the progress of low earners. In conjunction with this report, the computer updates a daily work-in-process report, run by sewing lines. Each line supervisor uses this to plan her work and balance her line.

Weekly, the piece-rate cards serve for payroll processing and for efficiency reports. Also, from this data, in part, the computer system develops a seconds report and a repairs report. The seconds report shows by style and product line a break-out of the cause of seconds, by material or labor. This report is run weekly, and monthly, and followed up closely by management. As a result, the seconds percentage to production has decreased from about four percent to approximately .4 percent. Similarly, the repairs percentage has dropped from about 12 percent to 4 percent.

With the piece-rate cards, or cards generated by them, physical inventory is now completed in a day, including rechecking and certification by the firm's auditors. Her Majesty's inventory shortage for 1964 was less than 2,000 garments, out of about eight million units of production -- amounting to a dollar shortage of about \$3,000. The firm's inventory at year-end included 1.7 million garments and approximately \$500,000 worth of piece-goods and trim.

Records on piece goods and trim are also stored on the 1401 system and a monthly raw material report produced, showing stock number, description of the piece goods and trim, and unit of issue such as running yards, square yards, or as in the case of thread, cones or boxes. The report shows beginning inventory in yards and dollars at the start of the month, goods received during the month, issues, and ending inventory balance. Supporting this summary report are detailed reports showing receipts by vendor and issues by lot numbers.

A particularly vital function of the computer, in the eyes of Her Majesty's management, is the order allocation procedure. This enables the firm to ship a customer's order one day after it is received, and automatically allocate available stock on a first-come, first-served basis. When stock is not available, the system produces back-order cards. These are allocated nightly against production, a back-order comparison report is produced, and every incomplete order is reviewed at least once a week, or twice a week during peak seasons, to see if it can be shipped on a partial basis. The system insures maximum customer service and eliminates the chance of losing a customer's order during processing.

Pre-invoicing on the 1401 combines in one computer run production of the original invoice, packing slip, shipping copy, stencil label, bill-of-lading, and accounting and sales copies. The body of the invoice shows the style number, color, size breakdown, total dozens billed for each style, cost per dozen, extended costs, the fair trade retail price, and the percentage markup that Her Majesty's customers will earn when they sell the garments. Total dozens billed and total amount of the invoice are at the bottom.

Producing the invoice in style number order, which corresponds to bin number order in the warehouse, eliminates lost motion during order picking and filling. As a result, shipping department costs have not increased since the order allocation system was installed, although company business has risen approximately 20 percent.

Monthly, the 1401 system produces an accounts receivable trial balance and an aged analysis. Included is every open invoice, and if past due, whether it is 30, 60, or more than 60 days old. A second trial balance is run just on past-due accounts and a past due statement simultaneously produced. This goes to the customer, sometimes with a handwritten note. The summarized listing allows Her Majesty's credit manager to concentrate on the accounts that need prodding. As a result, the firm maintains an average current position of between 90 and 95 percent and has a bad-debt write-off experience of less than five percent per year.

Other customer information developed includes a monthly order comparison report. Compiled geographically, in alphabetical order within area, it shows for each customer the orders received in dollars, for each month and year-to-date. These are compared with the previous year's figures for month and year-to-date. The report also shows the total business transacted with each customer for the previous year and provides a sub-total of orders booked by state, compared with the previous year. Each salesman receives a copy of this report monthly, as does management who uses it to evaluate salesmen's performance to set targets, and to determine where soft spots are developing.

A quarterly report is also prepared for each customer, showing his purchases by style and size. This is used by the salesmen in suggesting a representative order, and is also furnished to buyers at some of the stores, at their request, for their use as a record of purchases from Her Majesty.

In the financial and cost control category, the 1401 system develops a monthly costed production report, which shows production costed out at standard (work minute) by elements making up the total cost structure of the garments. Her Majesty maintains actual costs by each of these elements and monthly computes the variance between standard and actual. Thus, the report enables the firm to control costs and quickly spot areas of inefficiency.

Material variance is detailed by a monthly material gain and loss report, prepared by product line. It shows, by lot number and style, the actual materials charged to the lot and any variance from the standard, either as a gain or a loss.

Another cost document is the monthly cost of sales report, which shows monthly shipments by product line and stock style, the standard cost and sales price of the items shipped, the gross profit that Her Majesty earned by product line and style, and the gross profit margin percent for each style and for the product line. This report enables management to constantly reevaluate either low margin or very high margin items. For example, low margin items may be redesigned to change the profit picture, or taken out of the line.

RESULTS AND FUTURE PLANS

The data processing system at Her Majesty Underwear has enabled management to have immediate, detailed information on sales performance, both by style and by customer. Over a two-year period, although sales have increased more than 20 percent, total administrative costs at Her Majesty, including data processing, executive salaries, bank interests, etc., have dropped 12 percent.

The reports and documents produced by the system enable Her Majesty management to maintain a close watch on production, sales and costs. Customer service has been improved to the point where it is possible to ship an order one day after it is received.

Plans for future use of data processing equipment include the installation of an IBM System/360 Model 20 (tape system) in March, 1967.